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| 10/016,938 | 12/14/2001 | Kirby Gannett Vosburgh | RD-26907 | 3887 |

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| EXAMINER |
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TRAIL, ALLYSON NEEL

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| ART UNIT | PAPER NUMBER |
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2876

DATE MAILED: 01/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,938

Applicant(s)

VOSBURGH, KIRBY GANNETT

Examiner

Allyson N Sanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Amendment

1. Receipt is acknowledged of the amendment filed September 22, 2003.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 2, 7, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Ulrich et al (6,603,103).

Claim 1 of the current invention teaches the following:

"A method of self-referencing a structure having an exterior mappable by a light gauge system, the method comprising the steps of: applying an identifying marker to the exterior of the structure; and creating a contour map representation of the structure such that said identifying marker forms part of said map representation."

Ulrich et al teaches the following in regards to claim 1:

"Manufacturing lines include inspection systems for monitoring the quality of parts produced. Manufacturing lines for making semiconductor devices generally inspect each fabricated part. The information obtained is used to fix manufacturing problems in the semiconductor fab plant. A machine-vision system for inspecting devices includes a light source for propagating light to the device and an image detector that receives light from the device. Also included is a light sensor assembly for receiving a portion of the light from the light source." (Abstract).

"Height distribution of a surface can be obtained by projecting a light stripe pattern onto the surface and then reimaging the light pattern that appears on the surface. One technique for extracting this information based on taking multiple images (3 or more) of the light pattern that appears on the surface while shifting the position (phase) of the projected light stripe pattern is referred to as phase shifting interferometry, as disclosed in U.S. Pat. Nos. 4,641,972 and 4,212,073 (incorporated herein by reference).

The multiple images are usually taken using a CCD (charge-coupled device) video camera with the images being digitized and transferred to a computer where phase-shift analysis, based on images being used as "buckets," converts the information to a contour map (i.e., a three-dimensional representation) of the surface." (Col. 1, line 56 - Col. 2, line 4).

"The major surface opposite the connector side (the "label side") is typically marked with an identification label. In one such embodiment, the devices are inspected

at inspection station 115 on their connector side, then the devices are flipped over (e.g., into another tray) and inspected on their label side.” (Col. 8, lines 53-58). The objects are scanned and made into a contour map. Because the label is part of the object, it too is apparent as part of the contour map.

Claim 2 of the current invention discloses the following:

“The method of claim 1 further comprising the steps of: indexing said contour map representation of the structure with said identifying marker in a searchable database.”

Claim 7 of the current invention discloses the following:

“The method of claim 1 further comprising the step of tracking a fabrication or service life of the structure using said identifying marker”

Ulrich et al teaches the following in regards to claims 2 and 7:

“In one embodiment, at inspection station 1614, the top of the package is inspected with a 3D camera 1631'. Such package inspection includes checking the dimensions of the package, whether there are chips, cracks, scratches or voids, among other things. In this embodiment, at inspection station 1616, the markings are inspected with a 2D camera 1632'. In one embodiment, each of the ball-grid-array semiconductor devices in the JEDEC tray is marked with a model number and serial number as well as the manufacturer's identification so that the parts may be tracked.” (Col. 36, lines 49-58).

Claim 14 of the current invention discloses the following:

"The method of claim 1 wherein said contour map representation is created using a light gauge system having an illumination source and two cameras."

Ulrich et al teaches the following in regards to claim 14:

"In the embodiment shown, a second gantry 1630' is positioned over the inspection station 1614 and inspection station 1616. The gantry 1630' includes a gantry arm 1634'. A first inspection camera 1631' and a second inspection camera 1632' are mounted to the gantry arm so that each of the inspection cameras 1631' and 1632' can move independently of the other inspection camera." (Col. 36, lines 59-65).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ulrich et al (6,603,103) in view of Nakamura (5,971,130).

Ulrich et al's teachings are discussed above. Although Ulrich et al teaches an identifying marker applied to the surface of the structure, Ulrich et al fails to specifically teach the identifying marker being a raised pattern formed by machining the exterior surface.

Nakamura teaches the following in regards to claims 3 and 4:

"The present invention relates to a method and apparatus for providing a workpiece with an identification mark, a method and apparatus for identifying a

workpiece, and a sheet metal machining apparatus having a workpiece identifying apparatus." (Col. 1, lines 10-14).

"Conventionally, as means for providing workpieces with identification marks, there has been known means etching characters or numerals on workpieces by means of a punch press, attaching bar codes thereto, or by performing laser marking by means of laser beam machining." (Col. 1, lines 16-20).

In view of Nakamura's teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to identify the structure with an etched code using the method of machining. Ulrich et al teaches using a label. Etched codes are often used as identifying markers on objects. One would be motivated to use an etched code for the durability they provide. Etched codes cannot easily be destroyed or taken off.

6. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ulrich et al (6,603,103) in view of Evers (4,766,301).

Ulrich et al's teachings are discussed above. Although Ulrich et al teaches an identifying marker applied to the surface of the structure, Ulrich et al fails to specifically teach the identifying marker being both a bar code and a serial number.

Evers teaches figures 1 and 2. Figure 1 shows a label containing, both a bar code, 3 and a serial number 5. Figure 2 is an adhesive coating used to attach the label to an object.

In view of Evers's teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use either a bar code or a serial number

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as the identification marker. Ulrich et al teaches using a label. Both bar codes and serial numbers are often used as identifying markers on labels. One would be motivated to use a bar code and a serial number, for their ability, when scanned and entered respectively, to relay information regarding the object on which they are applied to.

Response to Arguments

7. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Gordon (5,589,942), Butler et al (5,640,240), Bieman (5,646,733), Halioua et al (4,641,972), and Balasubramanian (4,212,073).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson Sanders* whose telephone number is (703) 305-5779, until January 15, when the phone number will change to (571)-272-2406. The examiner can normally be reached between the hours of 7:30AM to 4:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (703) 305-3503. The fax phone number for this Group is (703) 872-9306.

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Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [allyson.sanders@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Allyson Sanders
Patent Examiner
Art Unit 2876
December 24, 2003



THIEN M. LE
PRIMARY EXAMINER